Complete Summary

GUIDELINE TITLE

Blepharitis.

BIBLIOGRAPHIC SOURCE(S)

American Academy of Ophthalmology Cornea/External Disease Panel, Preferred Practice Patterns Committee. Blepharitis. San Francisco (CA): American Academy of Ophthalmology (AAO); 2008. 19 p. [61 references]

GUIDELINE STATUS

This is the current release of the guideline.

This guideline updates a previous version: American Academy of Ophthalmology Cornea/External Disease Panel, Preferred Practice Patterns Committee. Blepharitis. San Francisco (CA): American Academy of Ophthalmology (AAO); 2003. 17 p.

All Preferred Practice Patterns are reviewed by their parent panel annually or earlier if developments warrant and updated accordingly. To ensure that all Preferred Practice Patterns are current, each is valid for 5 years from the "approved by" date unless superseded by a revision.

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SCOPE

DISEASE/CONDITION(S)

Blepharitis, including the following:

- Blepharitis, unspecified
- Ulcerative
- Angular
- Squamous
- Stye
- Meibomitis
- Abscess of eyelid
- Parasitic infestation of eyelid

GUIDELINE CATEGORY

Counseling
Diagnosis
Evaluation
Management
Treatment

CLINICAL SPECIALTY

Ophthalmology

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To preserve visual function, to minimize structural damage to the eyelids and ocular surface, and to improve patient comfort and appearance, by addressing the following goals:

- Establish the diagnosis of blepharitis, differentiating it from other causes of irritation and redness
- Identify the type of blepharitis
- Establish appropriate therapy
- Relieve discomfort and pain
- Prevent complications
- Educate and engage the patient in the management of this potentially chronic disease

TARGET POPULATION

Individuals of all ages who present with symptoms and signs suggestive of blepharitis, such as eyelid and ocular irritation and redness

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis/Evaluation

1. Patient history
2. Comprehensive medical eye evaluation

3. Examination of the eye and adnexa
    - Visual acuity
    - External eye examination
    - Slit-lamp biomicroscopy
    - Measurement of intraocular pressure
4. Diagnostic tests
    - Cultures of the eyelid margins
    - Eyelid biopsy

Management/Treatment

1. Warm compresses
2. Eyelid hygiene
3. Antibiotics (topical and/or systemic)
4. Topical corticosteroids
5. Topical cyclosporine
6. Follow-up
7. Counseling and referral, when applicable
8. Patient education

MAJOR OUTCOMES CONSIDERED

- Effectiveness of therapies
    - Reduction of signs and symptoms
    - Minimization of structural damage
    - Prevention of loss of visual function

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

In the process of revising this document, a detailed literature search of articles in the English language was conducted in December 2007 in PubMed and in the Cochrane Library on the subject of blepharitis for the years 2002 to 2007.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Ratings of Strength of Evidence

Level I includes evidence obtained from at least one properly conducted, well-designed randomized, controlled trial. It could include meta-analyses of randomized controlled trials.

Level II includes evidence obtained from the following:

- Well-designed controlled trials without randomization
- Well-designed cohort or case-control analytic studies, preferably from more than one center
- Multiple-time series with or without the intervention

Level III includes evidence obtained from one of the following:

- Descriptive studies
- Case reports
- Reports of expert committees/organization (e.g., Preferred Practice Patterns [PPP] panel consensus with external peer review)

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The results of a literature search on the subject of blepharitis were reviewed by the Cornea/External Disease Panel and used to prepare the recommendations, which they rated in two ways. The panel first rated each recommendation according to its importance to the care process. This "importance to the care process" rating represents care that the panel thought would improve the quality of the patient's care in a meaningful way. The panel also rated each recommendation on the strength of the evidence in the available literature to support the recommendation made.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Ratings of Importance to Care Process

Level A, defined as most important
Level B, defined as moderately important
Level C, defined as relevant but not critical

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

These guidelines were reviewed by Council and approved by the Board of Trustees of the American Academy of Ophthalmology (September 2008).

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

The ratings of importance to the care process (A-C) and the ratings for strength of evidence (I-III) are defined at the end of the "Major Recommendations" field.

Diagnosis

The initial evaluation of a patient with symptoms and signs suggestive of blepharitis should include the relevant aspects of the comprehensive medical eye evaluation (American Academy of Ophthalmology Preferred Practice Patterns Committee, 2005; American Academy of Ophthalmology Pediatric Ophthalmology/Strabismus Panel, 2007). [A:III]

Patient History

Questions about the following elements of the patient history may elicit helpful information:

- Symptoms and signs: [A:III] (e.g., redness, irritation, burning, tearing, itching, crusting of eyelashes, loss of eyelashes, eyelid sticking, contact lens intolerance, photophobia, increased frequency of blinking)
- Time of day when symptoms are worse [A:III]
- Duration of symptoms [A:III]
- Unilateral or bilateral presentation [A:III]
- Exacerbating conditions: [A:III] (e.g., smoke, allergens, wind, contact lenses, low humidity, retinoids, diet and alcohol consumption, eye makeup)
- Symptoms and signs related to systemic diseases: [A:III] (e.g., rosacea, allergy)

- Current and previous systemic and topical medications: [A:III] (e.g., antihistamines or drugs with anticholinergic effects, or drugs used in the past that might have an effect on the ocular surface [e.g., isotretinoin])
- Recent exposure to an infected individual: [C:III] (e.g., pediculosis palpebrarum [*Pthirus pubis*])

The ocular history may take into account details about previous eyelid and ophthalmic surgery and local trauma, including mechanical, thermal, chemical, and radiation injury. A history of cosmetic blepharoplasty is important to obtain because it can make evaporative dry eye worse. A history of styes and/or chalazia is common.

The medical history may also include information about dermatological diseases such as rosacea, atopic disease, and herpes zoster ophthalmicus.

Examination

Examination of the eye and adnexa includes measurement of visual acuity, [A:III] an external examination, [A:III] slit-lamp biomicroscopy, [A:III] and measurement of intraocular pressure. [A:III] The external examination should be performed in a well-lighted room with particular attention to the following:

- Skin [A:III]
- Eyelids [A:III]

The slit-lamp biomicroscopy should include evaluation of the following:

- Tear film [A:III]
- Anterior eyelid margin [A:III]
- Eyelashes [A:III]
- Posterior eyelid margin [A:III]
- Tarsal conjunctiva (everting eyelids) [A:III]
- Bulbar conjunctiva [A:III]
- Cornea [A:III]

Diagnostic Tests

A biopsy of the eyelid may be indicated to exclude the possibility of carcinoma in cases of marked asymmetry, resistance to therapy, or unifocal recurrent chalazia that do not respond well to therapy (Gilberg & Tse, 1992). [A:II] Before obtaining a biopsy for suspected sebaceous gland carcinoma, consultation with the pathologist is recommended [A:III] to discuss the potential need for frozen sections and mapping of the conjunctiva to search for pagetoid spread.

Treatment

There is insufficient evidence to make definitive recommendations for the treatment of blepharitis (Miller et al., 2005) and the patient must understand that a cure is not possible in most cases. Treatments that are helpful include the following:

- Warm compresses
- Eyelid hygiene
- Antibiotics (topical and/or systemic)
- Topical anti-inflammatory agents (e.g., corticosteroids, cyclosporine)

An initial step in treating patients with blepharitis is to recommend warm compresses and eyelid hygiene (Key, 1996). [A:III] Patients should be advised that warm compress and eyelid hygiene treatment, if effective, may be required long term, because the symptoms often recur if treatment is discontinued.[A:III]

The frequency and duration of treatment should be guided by the severity of the blepharitis and response to treatment.[A:III]

For patients with meibomian gland dysfunction (MGD), whose chronic symptoms and signs are not adequately controlled with eyelid hygiene, oral tetracyclines can be prescribed. [A:III] Alternatively, oral erythromycin (250 mg to 500 mg daily) or azithromycin (250 mg to 500 mg, one to three times a week) can be used.

A brief course of topical corticosteroids may be helpful for eyelid or ocular surface inflammation such as severe conjunctival injection, marginal keratitis, or phlyctenules. The minimal effective dose of corticosteroid should be utilized and long-term corticosteroid therapy should be avoided if possible. [A:III] Patients should be informed of the potential adverse effects of corticosteroid use, including the risk for developing increased intraocular pressure and cataract. [A:III]

Patients with atypical eyelid-margin inflammation or disease not responsive to medical therapy should be carefully re-evaluated. [A:III]

Follow-up

Patients with mild blepharitis should be advised to return to their ophthalmologist if their condition worsens. [A:III] Visit intervals for patients are dictated by the severity of symptoms and signs, the current therapy, and comorbid factors, such as glaucoma, in patients who have been treated with corticosteroids. The follow-up visit should consist of an interval history, measurement of visual acuity, external examination, and slit-lamp biomicroscopy. [A:III] If corticosteroid therapy is prescribed, patients should be re-evaluated within a few weeks to determine the response to therapy, measure intraocular pressure, and assess treatment compliance. [A:III]

Provider

Patients with blepharitis who are evaluated by non-ophthalmologist health care providers should be promptly referred to an ophthalmologist if any of the following occurs: [A:III]

- Visual loss
- Moderate or severe pain
- Severe or chronic redness
- Corneal involvement
- Recurrent episodes

- Lack of response to therapy

Counseling/Referral

One of the most important aspects of caring for patients with blepharitis is educating them about the chronicity and recurrence of the disease process. [A:III] Patients should be informed that symptoms can frequently be improved but are rarely eliminated. [A:III]

Definitions:

Ratings of Importance to Care Process

Level A, defined as most important
Level B, defined as moderately important
Level C, defined as relevant but not critical

Ratings of Strength of Evidence

Level I includes evidence obtained from at least one properly conducted, well-designed randomized, controlled trial. It could include meta-analyses of randomized controlled trials.

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- Case reports
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CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for most recommendations (see "Major Recommendations" field).

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Early diagnosis and appropriate treatment and management may reduce signs and symptoms of blepharitis and prevent permanent structural damage or visual loss. In cases of carcinoma masquerading as blepharitis, early diagnosis and appropriate treatment may be lifesaving.
- A schedule of regularly performed eyelid hygiene, daily or several times weekly, often blunts the symptoms of chronic blepharitis.

POTENTIAL HARMS

- Tetracycline and related drugs can cause photosensitization, gastrointestinal upset, vaginitis, and, rarely, azotemia. They have been implicated in cases of pseudotumor cerebri, and they also may decrease effectiveness of oral contraceptives and potentiate the effect of warfarin. Tetracycline should not be used in children under 10 years of age, since staining of teeth may occur; however, oral erythromycin may be substituted. Minocycline has been reported to stain the skin, thyroid, nails, sclera, teeth, conjunctiva, tongue, and bone.
- Patients should be informed of the potential adverse effects of corticosteroid use, including the risk for developing increased intraocular pressure and cataract.

CONTRAINDICATIONS

CONTRAINDICATIONS

The use of tetracyclines is contraindicated for:

- Pregnant patients
- Patients who are nursing
- Patients with a history of hypersensitivity to tetracyclines

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- **Preferred Practice Patterns provide guidance for the pattern of practice, not for the care of a particular individual**. While they should generally meet the needs of most patients, they cannot possibly best meet the needs of all patients. Adherence to these Preferred Practice Patterns will not ensure a successful outcome in every situation. These practice patterns should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed at obtaining the best results. It may be necessary to approach different patients' needs in different ways. The

physician must make the ultimate judgment about the propriety of the care of a particular patient in light of all of the circumstances presented by that patient. The American Academy of Ophthalmology is available to assist members in resolving ethical dilemmas that arise in the course of ophthalmic practice.

- **Preferred Practice Pattern guidelines are not medical standards to be adhered to in all individual situations**. The Academy specifically disclaims any and all liability for injury or other damages of any kind, from negligence or otherwise, for any and all claims that may arise out of the use of any recommendations or other information contained herein.
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IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Personal Digital Assistant (PDA) Downloads
Quick Reference Guides/Physician Guides

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1998 Sep (revised 2008 Sep)

GUIDELINE DEVELOPER(S)

American Academy of Ophthalmology - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Ophthalmology without commercial support

GUIDELINE COMMITTEE

Cornea/External Disease Panel; Preferred Practice Patterns Committee

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FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

These panel and committee members have disclosed the following financial relationships occurring from January 2007 to October 2008:

Robert S. Feder, MD: Alcon Laboratories, Inc. – Lecture fees

Donald S. Fong, MD, MPH: Merck – Consultant/Advisor

Douglas E. Gaasterland, MD: Inspire Pharmaceuticals – Consultant/Advisor; IRIDEX – Consultant/Advisor, Equity owner, Patents/Royalty

Francis S. Mah, MD: Alcon Laboratories, Inc. – Consultant/Advisor, Lecture fees, Grant support; Allergan, Inc. – Consultant/Advisor, Lecture fees, Grant support; BD Medical - Ophthalmic Systems – Lecture fees; InSite Vision, Inc. – Consultant/Advisor, Lecture fees, Grant support; Inspire Pharmaceuticals, Inc. – Consultant/Advisor, Lecture fees, Grant support; Ista Pharmaceuticals – Consultant/Advisor, Lecture fees, Grant support; Mpex, Inc. – Consultant/Advisor, Grant support; Polymedix, Inc. – Consultant/Advisor, Grant support; Xoma, Inc. – Consultant/Advisor, Grant support

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Audrey R. Talley-Rostov, MD: Addition Technology – Consultant/Advisor, Lecture fees; Advanced Medical Optics – Consultant/Advisor, Lecture fees; Allergan, Inc. – Consultant/Advisor, Lecture fees; Visiogen, Inc. – Consultant/Advisor

Jayne S. Weiss, MD: Alcon Laboratories, Inc. – Lecture fees

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GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Ophthalmology (AAO) Web site.

Print copies: Available from American Academy of Ophthalmology, P.O. Box 7424, San Francisco, CA 94120-7424; Phone: (415) 561-8540.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- Summary benchmarks for preferred practice patterns. San Francisco (CA): American Academy of Ophthalmology; 2008 Nov. 22 p.

Electronic copies: Available in Portable Document Format (PDF) or Personal Digital Assistant (PDA) format from the American Academy of Ophthalmology (AAO) Web site.

Print copies: Available from American Academy of Ophthalmology, P.O. Box 7424, San Francisco, CA 94120-7424; Phone: (415) 561-8540.

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on February 20, 1999. The information was verified by the guideline developer on April 23, 1999. This summary was updated by ECRI on April 9, 2004. The information was verified by the guideline developer on May 20, 2004. This NGC summary was updated by ECRI Institute on April 22, 2009. The updated information was verified by the guideline developer on May 15, 2009.

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